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File Code: 3410 **Date:** January 10, 2003
Route To:

Subject: Douglas-fir Tussock Moth Early Detection Trapping

To: Forest Supervisor, Coconino National Forest, Forest Supervisor, Coronado National Forest, Forest Supervisor, Tonto National ForNF

Douglas-fir tussock moth (dftm), *Orgyia pseudotsugata,* is a native defoliator of major importance in the mixed conifer, Douglas-fir, and true fir forests of the interior West. Outbreaks can result in spectacular defoliation, growth retardation, top kill, and considerable tree mortality. Additionally, hairs from the egg, larval, and pupal stages are irritating to some individuals and may cause asthma symptoms or severe skin rashes. The insects are seldom noticed between outbreaks, but high population levels can be reached very quickly. An early warning detection system was developed to provide land managers with one to two years advance notice of impending outbreaks.

Used widely throughout the western United States, this program has been in place in Arizona since 1992. A system of pheromone traps is placed annually at several locations. Trap placement precedes the emergence of adult male dftm. The pheromone used is selective for this insect species. Locations were chosen based on historic outbreaks or site susceptibility due to an extensive stand of appropriate host type. Trap catch exceeding 40 moths/trap in any plot indicates an imminent outbreak. In 2002, trapping systems were located along the Mogollon Rim near Payson, the Catalina Mountains, the Pinaleño Mountains, the Sierra Ancha Mountains, and the Pinal Mountains. The early warning detection trapping in Arizona is coordinated by the Arizona Zone Office in cooperation with the Safford RD of the Coronado NF and the University of Arizona Forest Health Program. This letter will serve to report the findings of the 2002 trapping season to appropriate land managers.

Survey results from 2002 (Table 1) indicate that no dftm populations are in outbreak or approaching outbreak levels in the areas surveyed. The population in the Pinal Mountains, as expected, is no longer in outbreak status. The population peaked in 1999/2000 and a decline was seen in 2001. A further decline has been recorded in 2002. Moth catches on West Peak in the Pinaleños declined again this year as well. Other trap locations continue to yield well below threshold moth counts. The total moth count has been steadily decreasing during the last 3 years: 2000 (1010 moths), 2001 (632 moths), 2002 (67 moths).

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Table 1. Arizona Tussock Moth Trap Results, 2000-2002.

PLOT NAME	PLOT LOCATION	Total Moths 2000	Average Number of Moths/Trap 2000	Total Moths 2001	Average Number of Moths/Trap 2001	Total Moths 2002	Average Number of Moths/Trap 2002
Baker Butte	Mogollon Rim	4	0.8	32	6.4	0	0
Washington Park	Mogollon Rim	55	11	34	6.8	1	0.2
Marshall Gulch	Catalina Mtns.	1	0.2	2	0.4	0	0
Lemon Rock	Catalina Mtns.	0	0	3	0.6	0	0
West Peak	Pinaleño Mtns.	160	32	140	28	1	0.2
Cunningham	Pinaleño Mtns.	0	0	13	2.6	0	0
Workman Creek	Sierra Ancha Mtns.	15	3	15	3	0	0
Reynolds Creek	Sierra Ancha Mtns.	21	4.2	17	3.4	1[(1)]	0.2
Icehouse	Pinal Mtns.	434	86.8	202	40.4	53	10.6
Lower Pinal	Pinal Mtns.	320	64	174	34.8	11[(2)]	2.2

[(1)] One trap removed after being found on the ground.
[(2)] Weather events could have contributed to the low moth catch in this area.

If you have any questions regarding the report or data, feel free to contact Bobbe Fitzgibbon at 928-556-2072; fax 928-556-2131; email bfitzgibbon@fs.fed.us.

/s/ John Anhold
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